



CITY of NOVI CITY COUNCIL

**Agenda Item G
September 24, 2012**

SUBJECT: Approval of Traffic Control Orders 12-45 through 12-54 to establish traffic control at various intersections within Greenwood Oaks Subdivision.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division *BT*

CITY MANAGER APPROVAL: *[Signature]*

BACKGROUND INFORMATION:

On July 23, 2012, City Council approved a request by the Greenwood Oaks 1 and 2 Homeowners Association and Greenwood Oaks 3 and 4 Homeowners Association to terminate the Decorative Street Sign Agreement with the City of Novi and to replace the existing traffic control signs with City standard signs. Staff recommended approval of the request as an opportunity to upgrade the signage within the subdivision to meet the new sign requirements that are pending from the Federal Highway Administration (see attached FHWA Sign Retroreflectivity Requirements for more information). The attached study by Birchler Arroyo, traffic consultants for the City, examined the intersections within the subdivision for the appropriate type of right-of-way control signage (e.g. YIELD or STOP sign). The review of each intersection evaluated the critical approach speed and sight distance to determine the appropriate level of traffic control—a less restrictive yield sign or a more restrictive stop sign.

The table below summarizes the recommendation for the appropriate traffic control for each intersection. All traffic control orders below are for the installation of new signs where no signs currently exist, with one exception. The existing stop sign for westbound Warrington at Lynwood will be replaced with a more appropriate yield sign.

TCO No.	Description
12-45	Westbound Warrington Drive to yield at Lynwood Drive
12-46	Northbound Lynwood Drive to yield at Nantucket Drive
12-47	Southbound Holyoke Lane to yield at Greenwich Drive
12-48	Eastbound Wellesley Court to yield at Nantucket Drive
12-49	Northbound Holyoke Lane to yield at Nantucket Drive
12-50	Northbound Holyoke Court to yield at Holyoke Lane
12-51	Southbound Salem Court to yield at Holyoke Lane
12-52	No Parking on Island side of cul-de-sac on Holyoke Court
12-53	No Parking on Island side of cul-de-sac on Wellesley Court
12-54	No Parking on Island side of cul-de-sac on Salem Court

A traffic control order for each new sign installation has been prepared for consideration based on staff's recommendation. Traffic control orders are required under the Uniform Traffic Code to enforce traffic control signs that have been installed.

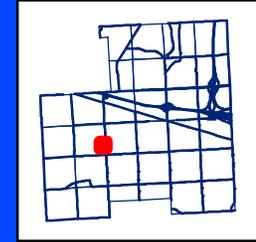
The installation of each sign will be completed by DPS Field Operations staff and part of the budgeted sign replacement program.

RECOMMENDED ACTION: Approval of Traffic Control Orders 12-45 through 12-54 to establish traffic control at various intersections within Greenwood Oaks Subdivision.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Casey				
Council Member Fischer				

	1	2	Y	N
Council Member Margolis				
Council Member Mutch				
Council Member Wrobel				

Greenwood Oaks TCO Map



Legend

TCO Signs

- KEEP RIGHT
- NO PARKING
- STOP
- YIELD



City of Novi
 Engineering Division
 Department of Public Services
 26300 Lee BeGole Drive
 Novi, MI 48375
 cityofnovi.org

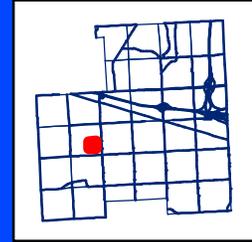
Map Author: Adam Wayne
 Date: 09/04/12
 Project:
 Version #:

Amended By: Brian Coburn
 Date: 9/17/12
 Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

Greenwood Oaks TCO Map



Legend

TCO Signs

- KEEP RIGHT
- NO PARKING
- STOP
- YIELD



City of Novi
 Engineering Division
 Department of Public Services
 26300 Lee BeGole Drive
 Novi, MI 48375
cityofnovi.org

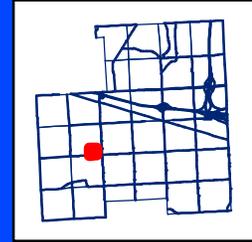
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Greenwood Oaks TCO Map



Legend

TCO Signs

- KEEP RIGHT
- NO PARKING
- STOP
- YIELD



City of Novi
 Engineering Division
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Map Author: Adam Wayne
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**CITY OF NOVI
TRAFFIC CONTROL ORDER**

____ SPEED
____ PARKING
 X OTHER

DATE OF ORDER: 09/17/2012
CONTROL NUMBER: 12-45

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

WARRINGTON DRIVE

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

WESTBOUND WARRINGTON DRIVE TO YIELD AT LYNWOOD DRIVE



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-45 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

WESTBOUND WARRINGTON DRIVE TO YIELD AT LYNWOOD DRIVE

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

_____ SPEED
_____ PARKING
 X OTHER

DATE OF ORDER: 09/17/2012
CONTROL NUMBER: 12-46

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

LYNWOOD DRIVE

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

NORTHBOUND LYNWOOD DRIVE TO YIELD AT NANTUCKET DRIVE



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-46 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

NORTHBOUND LYNWOOD DRIVE TO YIELD AT NANTUCKET DRIVE

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

_____ SPEED
_____ PARKING
 X OTHER

DATE OF ORDER: 09/17/2012

CONTROL NUMBER: 12-47

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

HOLYOKE LANE

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

SOUTHBOUND HOLYOKE LANE TO YIELD AT GREENWICH DRIVE



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-47 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

SOUTHBOUND HOLYOKE LANE TO YIELD AT GREENWICH DRIVE

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

_____ SPEED
_____ PARKING
 X OTHER

DATE OF ORDER: 09/17/2012
CONTROL NUMBER: 12-48

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

WELLESLEY COURT

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

EASTBOUND WELLESLEY COURT TO YIELD AT NANTUCKET DRIVE



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-48 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

EASTBOUND WELLESLEY COURT TO YIELD AT NANTUCKET DRIVE

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

_____ SPEED
_____ PARKING
 X OTHER

DATE OF ORDER: 09/17/2012

CONTROL NUMBER: 12-49

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

HOLYOKE LANE

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

NORTHBOUND HOLYOKE LANE TO YIELD AT NANTUCKET DRIVE



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-49 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

NORTHBOUND HOLYOKE LANE TO YIELD AT NANTUCKET DRIVE

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

_____ SPEED
_____ PARKING
 X OTHER

DATE OF ORDER: 09/17/2012
CONTROL NUMBER: 12-50

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

HOLYOKE COURT

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

NORTHBOUND HOLYOKE COURT TO YIELD AT HOLYOKE LANE



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-50 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

NORTHBOUND HOLYOKE COURT TO YIELD AT HOLYOKE LANE

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

____ SPEED
____ PARKING
 X OTHER

DATE OF ORDER: 09/17/2012
CONTROL NUMBER: 12-51

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

SALEM COURT

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

SOUTHBOUND SALEM COURT TO YIELD AT HOLYOKE LANE



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-51 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

SOUTHBOUND SALEM COURT TO YIELD AT HOLYOKE LANE

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

_____ SPEED
 X PARKING
_____ OTHER

DATE OF ORDER: 09/17/2012

CONTROL NUMBER: 12-52

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

HOLYOKE COURT

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE NO PARKING SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

NO PARKING ON ISLAND SIDE OF CUL-DE-SAC ON HOLYOKE COURT



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-52 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

NO PARKING ON ISLAND SIDE OF CUL-DE-SAC ON HOLYOKE COURT

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

____ SPEED
 X PARKING
____ OTHER

DATE OF ORDER: 09/17/2012

CONTROL NUMBER: 12-53

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

WELLESLEY COURT

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE NO PARKING SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

NO PARKING ON ISLAND SIDE OF CUL-DE-SAC ON WELLESLEY COURT



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-53 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

NO PARKING ON ISLAND SIDE OF CUL-DE-SAC ON WELLESLEY COURT

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012.

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

 SPEED
 X PARKING
 OTHER

DATE OF ORDER: 09/17/2012

CONTROL NUMBER: 12-54

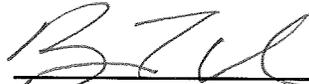
PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33-51 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

SALEM COURT

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE NO PARKING SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33-51 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

NO PARKING ON ISLAND SIDE OF CUL-DE-SAC ON SALEM COURT



Brian Coburn, P.E. - Traffic Engineer

Dated: 09/17/2012

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER 12-54 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

NO PARKING ON ISLAND SIDE OF CUL-DE-SAC ON SALEM COURT

ADOPTED AT THE REGULAR MEETING OF
CITY COUNCIL ON 09/24/2012,

By: _____
Robert J. Gatt, Mayor

By: _____
Maryanne Cornelius, Clerk

MEMORANDUM



BIRCHLER ARROYO
ASSOCIATES, INC.

DATE: July 31, 2012

TO: Brian T. Coburn, P.E.
Engineering Manager, City of Novi

FROM: Rodney L. Arroyo, AICP, Vice President
William A. Stimpson, P.E., Director of Traffic Engineering

SUBJECT: **Greenwood Oaks Subdivision Right-of-Way Control Signs**

As requested, we have evaluated this subdivision's internal intersections for the appropriate type of right-of-way control signage (e.g. YIELD or STOP sign). The study examined 12 intersections, including two at the Greenwich Drive U street. We also checked the south end of Graham Court street stub and three cul-de-sac turnarounds for possible signing improvements.

Figure 1 is an aerial photo of the overall subdivision, and Figures 2-4 are birdseye views of various sections of the subdivision. Table 1 summarizes our findings, and Table 2 lists our recommendations.

Recommendations

1. The City should install the new right-of-way control signs specified in the top part of Table 2.
2. All new and existing STOP and YIELD signs should be supported by Council-approved Traffic Control Orders.
3. The City should also consider installing the miscellaneous signs listed at the bottom of Table 2.

General Background

The *Michigan Manual of Uniform Traffic Control Devices (MMUTCD)* establishes guidelines and standards applicable (by law) to all public roads and streets in the State. Relative to the 2005 edition cited in our previous studies, the recently released 2011 edition contains some new language relative to right-of-way control signs.

Section 2B.04 – Right-of-Way at Intersections – first defines the general rule-of-the-road regarding vehicles approaching an intersection from different streets at “approximately the same time”: the driver of the vehicle on the left must yield to the driver of the vehicle on the right. The Manual then goes on to state that “the right-of-way can be modified at through streets or highways by placing YIELD signs or STOP signs on one or more approaches.” The following guidance is provided relative to such sign installations:

“Engineering judgment should be used to establish intersection control. The following factors should be considered:

(text continues on page 8)



Figure 1. Greenwood Oaks Subdivision

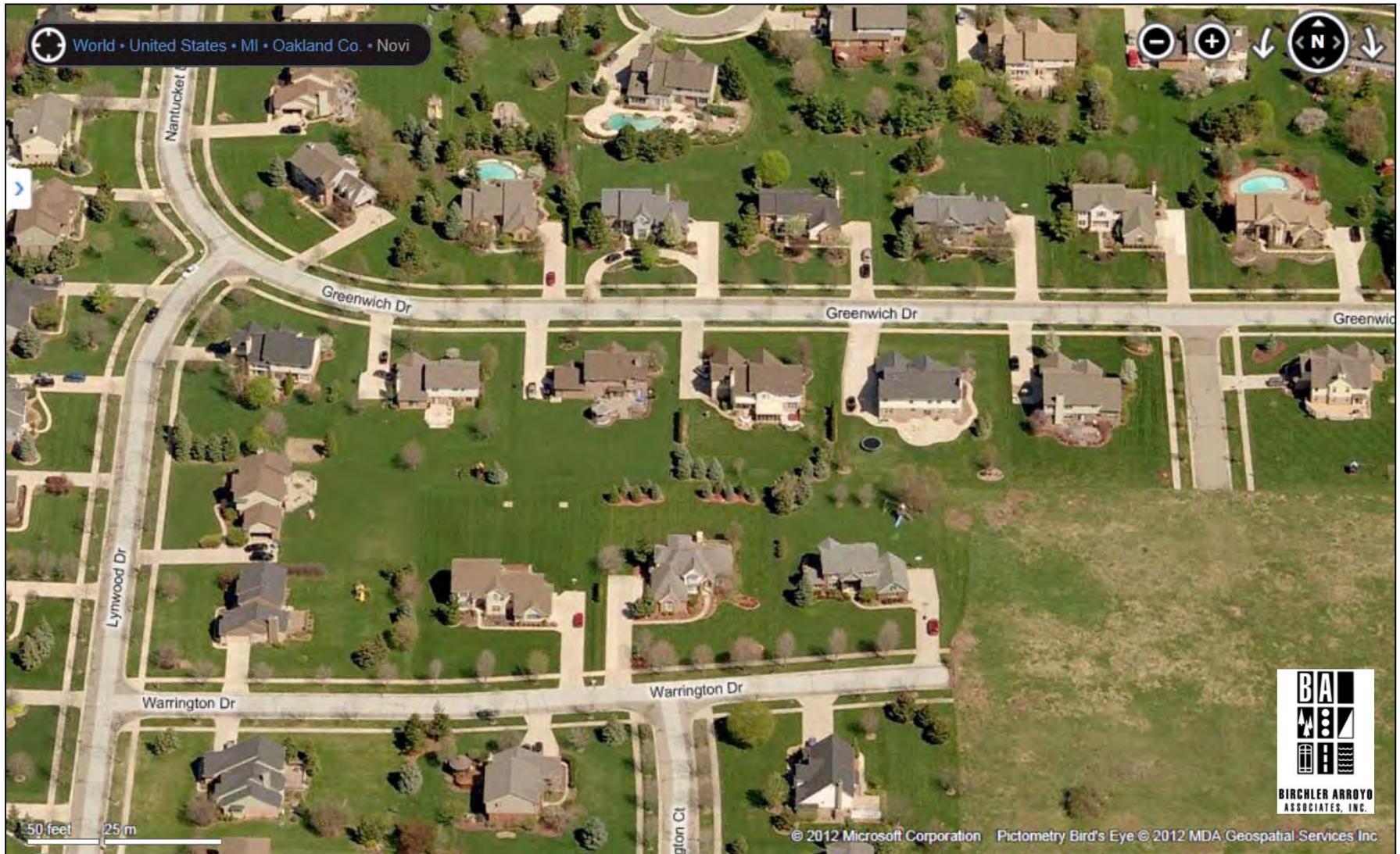


Figure 2. Southern Portion of Greenwood Oaks

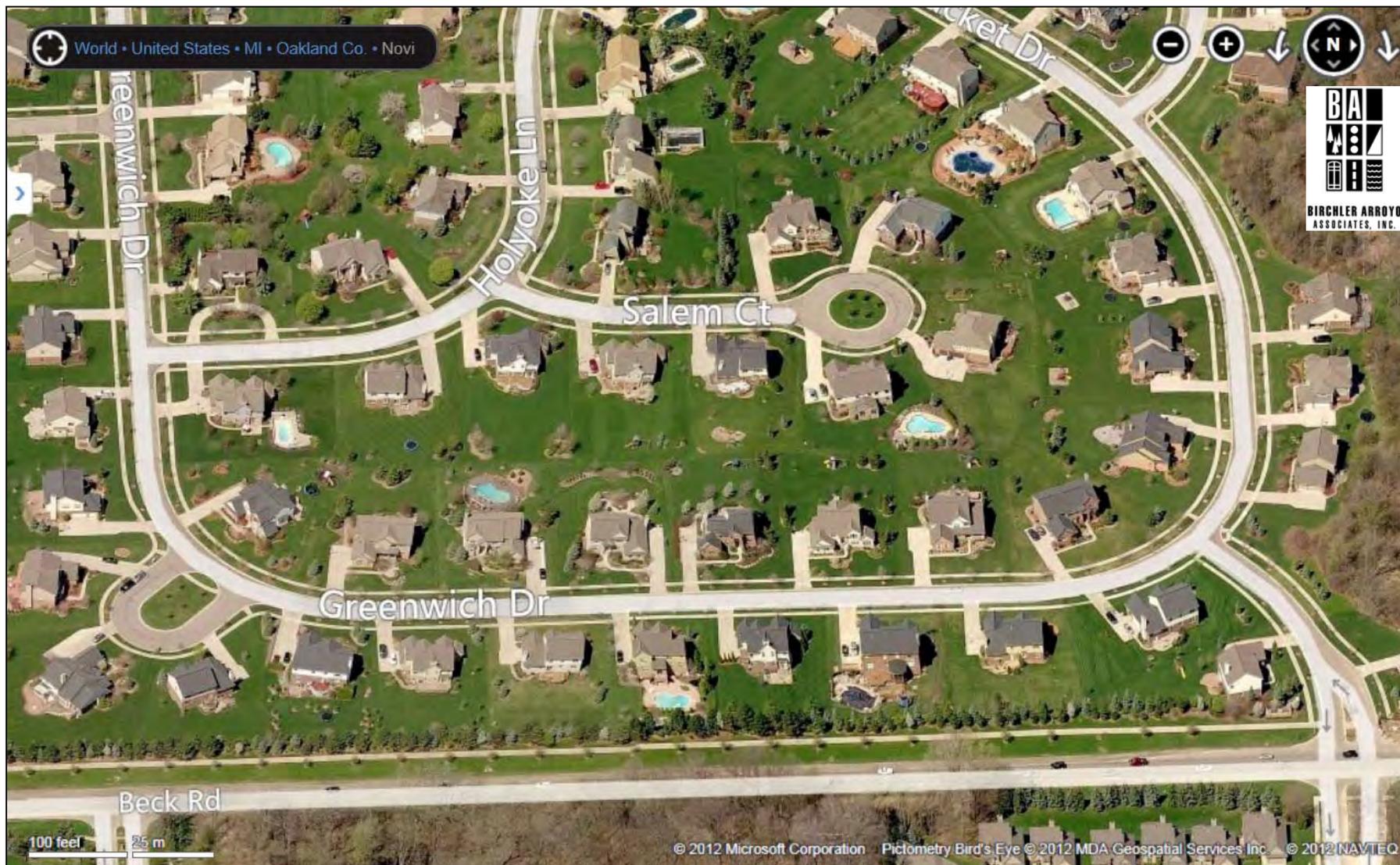


Figure 3. Eastern Portion of Greenwood Oaks

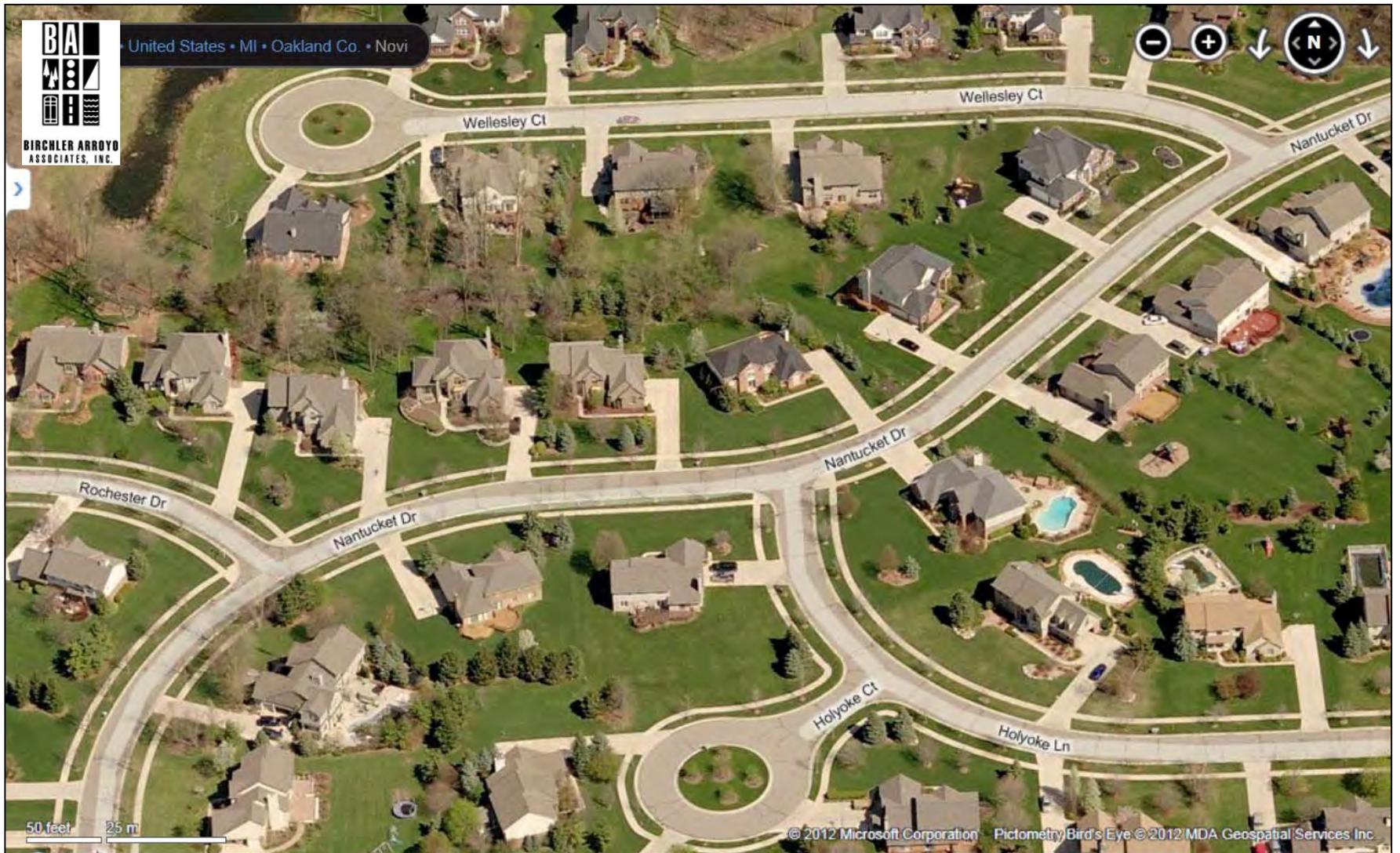


Figure 4. Northwest Portion of Greenwood Oaks

Table 1. Greenwood Oaks Subdivision Traffic Signs: Summary of Findings (7-31-12)

F i g.	Intersection	Existing Controls	Con- trolling Corner	Critical Speed (mph)	Warranted Signs			Comments
					None	Yield	Stop	
2	Lynwood Dr & Warrington Dr	WB STOP	NE	19		X		Ex. STOP not warranted.
	Lynwood Dr & Nantucket Dr / Greenwich Dr	None	SE	> 30		X		To assign ROW at a Tee.
	Greenwich Dr & Graham Ct	None	SW	16		X		There is no street name sign identifying Graham.
3	Greenwich Dr & Holyoke Ln	None	NW	> 30		X		To assign ROW at a Tee.
	Greenwich Dr & South End of U Street	None	-	-		X		Unrestricted view, but need to treat same as north end of U street.
	Greenwich Dr & North End of U Street	None	NE	17		X		Limited view is on right side of this egress.
	Cider Mill Blvd & Greenwich Dr / Nantucket Dr	SWB STOP	NW	19		X		But could retain STOP to provide more protection to internal loop-road traffic from traffic entering sub.
4	Nantucket Dr & Wellesley Ct	None	NW	> 30		X		To assign ROW at a Tee. Also, Critical Speed would be lower if referenced to any of the cars frequently parked on WB approach.
	Nantucket Dr & Holyoke Ln	None	SE	21		X		Sight limited by grade on Nantucket east of Holyoke, & by lawn rising toward corner house.
	Nantucket Dr & Rochester Dr	SEB YIELD	NE	20		X		Ex. YIELD sign is correct.
	Holyoke Ln & Holyoke Ct	None	SW	12		X		RCOC guidelines indicate a YIELD sign. A STOP sign would be optional, but probably not justified given the relatively low volumes & speeds.
3	Holyoke Ln & Salem Ct	None	NE	15		X		Shrubbery on NE corner found more restrictive than that on NW corner, despite initial impression to the contrary.

Table 2. Summary of Recommendations

Location	Recommendations
Intersection Right-of-Way Control	
Lynwood Dr & Warrington Dr	Replace existing STOP sign on Warrington Dr with a YIELD (R1-2) sign.
Lynwood Dr & Nantucket Dr / Greenwich Dr	Install YIELD (R1-2) sign on NB Lynwood Dr approach.
Greenwich Dr & Graham Ct	Install YIELD (R1-2) sign on NB Graham Ct approach, along with street-name signs.
Greenwich Dr & Holyoke Ln	Install YIELD (R1-2) sign on SB Holyoke Ln approach.
Greenwich Dr & South End of U street	Install YIELD (R1-2) sign on NWB U street approach.
Greenwich Dr & South End of U street	Install YIELD (R1-2) sign on NWB U street approach.
Cider Mill Blvd & Greenwich Dr / Nantucket Dr	Retain existing STOP sign on SWB Cider Mill approach.
Nantucket Dr & Wellesley Ct	Install YIELD (R1-2) sign on SEB Wellesley Ct approach.
Nantucket Dr & Holyoke Ln	Install YIELD (R1-2) sign on NB Holyoke Ln approach.
Nantucket Dr & Rochester Dr	Retain existing YIELD sign.
Holyoke Ln & Holyoke Ct	Install YIELD (R1-2) sign on NEB Holyoke Ct approach.
Holyoke Ln & Salem Ct	Install YIELD (R1-2) sign on SWB Salem Ct approach.
Other Signing Recommendations	
South End of Graham Ct	Install Type 4 Object Marker (end of road – reflective red diamond).
Three cul-de-sac turnarounds	Consider installing Novi-standard Keep Right & No Parking signs on island.

- A. Vehicular, bicycle, and pedestrian traffic volumes on all approaches;
- B. Number and angle of approaches;
- C. Approach speeds;
- D. Sight distance available on each approach; and
- E. Reported crash experience."

Also, one of the conditions for which *"the use of YIELD or STOP signs should be considered"* is:

"The ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop or yield in compliance with the normal right-of-way rule if such stopping or yielding is necessary..."

A standard unique to the Michigan Manual, also appearing in this section, is that:

"YIELD or STOP signs shall not be used for speed control."

Additional guidance is that:

"Once the decision has been made to control an intersection, the decision regarding the appropriate roadway to control should be based on engineering judgment. In most cases, the roadway carrying the lowest volume of traffic should be controlled... A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study."

Section 2B.06 – STOP Sign Applications – presents additional pertinent guidance, similar to that previously appearing in Section 2B.05:

"At intersections where a full stop is not necessary at all times, consideration should first be given to using less restrictive measures such as YIELD signs..."

Lastly relative to the MMUTCD, *"the use of STOP signs ... should be considered if engineering judgment indicates that a stop is always required because... a restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street..."*

National experience has found that drivers tend to disregard clearly unwarranted STOP signs and roll through them as if they were YIELD signs. Mid-block speeds have been found to actually increase with STOP sign installation, as drivers attempt to "make up for lost time." Unwarranted STOP signs have also been found to provide pedestrians (especially children) a false sense of security, in that they assume drivers will stop for a STOP sign when, in fact, they often do not.

Supporting Analyses and Discussion

Relative to the above, the City of Novi has long applied the Road Commission for Oakland County's recommended procedure for evaluating the issue of "restricted view." Measurements to corner sight obstructions are made, and a nomograph is applied to determine the Critical Approach Speed on the minor approach (typically, the "stem" of a tee intersection). A STOP sign is required for Critical Speeds below 10 mph and often considered for Critical Speeds in the range of 10-15 mph. Ordinarily, a YIELD sign is more appropriate for Critical Speeds above 15 mph. RCOC guidelines indicate that no sign is generally required for Critical Speeds above 30 mph, but we believe that this option should be considered only very carefully.

Our field measurements and subsequent analyses derived the Critical Approach Speeds listed in Table 1 (above). The table's comment column typically identifies the responsible sight obstruction, but also may relate to our reasoning for a specific signing recommendation (e.g., when the Critical Speed is in what we consider the discretionary 10-15 mph range).

Results by Intersection

The following paragraphs briefly describe key findings and recommendations for specific intersections.

Lynwood Drive / Warrington Drive – This study found that the existing STOP sign on westbound Warrington Drive (Figure 6, below) is not warranted and should be replaced by a YIELD sign.



Figure 5. SE Corner of Lynwood/Warrington



Figure 6. NE Corner of Lynwood/Warrington

Lynwood Drive / Nantucket Drive-Greenwich Drive – The southwest corner (Figure 7) has no significant sight obstructions, but the large shrub and house on the southeast corner (Figure 8) warrant a YIELD sign on the northbound Lynwood approach.



Figure 7. SW Corner of Lynwood/Nantucket



Figure 8. SE Corner of Lynwood/Greenwich

Greenwich Drive / Graham Court – There are no street-name signs at the intersection of Greenwich and this stub street; currently, the name shows up only on maps. The sight obstruction in the yard on the southwest corner (Figure 9) warrants a YIELD sign. The basketball backboard in the sidewalk on the southeast corner (Figure 10) should be removed no later than the time this sidewalk is extended into new development area to the south.



Figure 9. SW Corner of Greenwich/Graham



Figure 10. SE Corner of Greenwich/Graham

Greenwich Drive / Holyoke Lane – Both corners afford good visibility, but the northwest corner (Figure 11) is slightly more restrictive. Regardless of corner visibility, a YIELD sign is recommended on Holyoke, to ensure that traffic on the stem of this tee intersection always yields to through traffic on the “top.”



Figure 11. SW Corner of Greenwich/Holyoke



Figure 12. North End of Greenwich U Street

Greenwich Drive U Street – As can be seen in Figure 3 (on earlier page), the only significant sight obstruction upon exiting either end of this U street are the large spruce trees also shown at the right side of Figure 12 (immediately above). These trees were found to warrant a YIELD sign at the north end of the U. For consistent treatment regardless of sight distance – and to ensure that traffic on the U always yields to through traffic on Greenwich – a YIELD sign should also be installed at the south end of the U street.

Cider Mill Boulevard / Greenwich Drive-Nantucket Drive – The most sight-restricting features here are the spruce trees shown in Figure 13. The available sight distance warrants no more restrictive control than a YIELD sign; however, that sign may be less effective than needed at a location where the drivers have just entered from a 45-mph arterial street. Retention of the existing STOP sign might be justified on the basis of greater expected safety effectiveness. A similar rationale has been applied in the past, prior to installing STOP signs at similar locations in the City.



Figure 13. NW Corner of Cider Mill/Nantucket



Figure 14. NE Corner of Nantucket/Wellesley

Nantucket Drive / Wellesley Court – Both corners at this tee intersection yield Critical Speeds in excess of 30 mph, based on fixed landscape features alone. However, as shown in Figure 14 (above) and confirmed by a nearby resident, cars frequently park along the north side of the westbound Nantucket approach, further restricting corner sight distance. Given this factor and the general preference for ensuring that traffic on the stem of a tee intersection always yields to traffic on the “top” of the tee, a YIELD sign should be installed on southeast-bound Wellesley Court.

Nantucket Drive / Holyoke Lane – Corner sight distance here is most restricted by grade differentials: the westbound Nantucket approach follows a significant upgrade, as does the corner lawn as it approaches the house (Figure 15). The 21-mph Critical Speed warrants a YIELD sign on Holyoke.



Figure 15. SE Corner of Nantucket/Holyoke



Figure 16. NE Corner of Nantucket/Rochester

Nantucket Drive / Rochester Drive – The large yard shrubbery on the northeast corner (Figure 16, above) results in a Critical Speed on the Rochester approach of 20 mph, thus warranting the existing YIELD sign.

Holyoke Lane / Holyoke Court – As can be seen in Figures 4 and 17-18, there are large spruce trees on both corners of this tee intersection. The Critical Speeds are 12 mph for the SW corner and 17 mph for the SE corner. Although the lower of these two values could optionally be used to justify a STOP sign, it should be noted that the short court length (Figure 4) is associated with low approach speeds and low volumes, and a YIELD sign should be more-than-adequate to provide a reasonable level of safety (and reiterating, the RCOC guideline does not call for a STOP sign until the Critical Speed is 10 mph or less).



Figure 17. SW Corner of Holyoke Ln / Ct



Figure 18. SE Corner of Holyoke Ln / Ct

Holyoke Lane / Salem Court – As at Holyoke Court, both corners here also have significant sight limitations (Figures 19-20). Although the viewer's initial impression may be that the northwest corner is more limiting, analysis found that the Critical Speed there is 22 mph, whereas the Critical Speed on the northeast corner is only 15 mph. Given the RCOC guidelines, a YIELD sign on Salem should suffice.



Figure 19. NE Corner of Holyoke Ln/Salem Ct



Figure 20. NW Corner of Holyoke Ln/Salem Ct

Other Findings and Recommendations

Street Stub – The south end of the Graham Court street stub is equipped with a guardrail in a poor state of repair and no signing (Figure 21). At a minimum, a Type 4 Object Marker (red reflective diamond) should be installed immediately behind the guardrail (no further south than the end of the existing public right-of-way). We also recommend that consideration be given to replacing the unsightly and ineffective guardrail with a vertical (barrier) curb, since the sole purpose appears to be to keep errant motorists out of the field (which is a now planned future home site for another development).



Figure 21. Existing Treatment at South End of Graham Court

Cul-de-Sac Turnarounds – None of this subdivision's three cul-de-sac turnarounds (on Wellesley Court, Holyoke Court, and Salem Court) are equipped with any kind of signing. Consideration should be given to installing Novi-standard signing (a word-only Keep Right sign and two pairs of back-to-back No Parking symbol signs on the island).

Sign Retroreflectivity Requirements

According to the National Safety Council, about half of traffic fatalities occur at night, yet only about one-quarter of travel takes place after dark. As the U.S. population ages, nighttime visibility is becoming even more of a safety concern. By the year 2030, about 19 percent of the U.S. population will be 65 or older, compared to 13 percent in 2010.¹ In general, vision and reaction times decrease with age. To enhance the safety of nighttime driving, the FHWA has set Federal standards to improve the nighttime visibility of the signs on all public streets and highways.

The sheeting used on traffic signs is “retroreflective,” meaning it is designed so that light bounces back from the sign to enable nighttime visibility. Over time, the sign sheeting degrades. The FHWA standard, which is contained in the *Manual on Uniform Traffic Control Devices (MUTCD)*, establishes minimum levels of sign retroreflectivity.

Phased-in Deadlines

The Federal standard governing sign retroreflectivity allows public agencies to phase in compliance according to the schedule shown at right. This allows jurisdictions to plan for sign upgrades within their existing maintenance cycles.

Flexible Compliance Methods

Agencies have until January 2012 to implement a method for maintaining traffic sign retroreflectivity at or above the minimum levels. Agencies can choose either an assessment method or a management method, or a combination of the two. The basic assessment methods are visual assessment or measuring sign retroreflectivity. If an agency wants to avoid having to assess individual signs, they can simply have signs replaced under a management program.

Compliance is achieved by *having a method in place and using the method to maintain minimum levels of retroreflectivity*. Provided that a method is being used, an agency would be *in compliance even if there are some individual signs that do not meet the retroreflectivity levels* at a particular point in time.

¹ Source: U.S. Census Bureau
<http://www.census.gov/population/www/projections/summarytables.html>

Public Agencies are allowed to phase-in their compliance as outlined below:

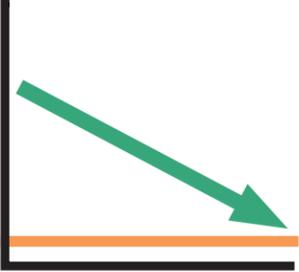
January 22, 2012
Implement a method to maintain minimum levels of retroreflectivity

January 22, 2015
Replace regulatory, warning, and ground-mounted guide signs

January 22, 2018
Replace overhead guide signs and street name signs



Menu of Sign Retroreflectivity Maintenance Method Options

MUTCD Retroreflectivity Test Method Requirements & Recommendations		EQUIPMENT NEEDS		INSPECTOR REQUIREMENTS		TIME DEMANDS		CHOOSE FROM THESE METHODS			MANAGEMENT METHODS			ASSESSMENT METHODS				
											Select Any One of These Three Visual Procedures							
								Control Signs Replacement Program	Blanket Replacement Program	Expected Sign Life Replacement Program	Measured Retro-reflectivity	Consistent Parameters	Comparison Panels	Calibration Signs				
																		
	Retroreflectometer Needed To Check Control Signs																	
	Inspection Vehicle									PU or SUV	Any	Any						
	Must Know Sheet Type	<i>Required</i>	<i>Required</i>															
	Inventory	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial	Not Required in MUTCD, but might be beneficial
	Trained	Training on retroreflectometer required				Training on retroreflectometer required				<i>Required</i>	<i>Required</i>	<i>Required</i>						
	Age					Any				60+	Any	Any						
	At Night									<i>Required</i>	<i>Required</i>	<i>Required</i>						
	Must Stop At Signs	<i>Required</i> control signs only								<i>Required</i> every sign		<i>Required</i> Marginal Signs Only						

A method must be implemented and in use by **January 2012**

A blank field indicates not applicable.

Funding Eligibility

State and local road agencies may seek funding assistance through the following Federal Aid programs to help defray some of the costs related to ensuring sign retroreflectivity. Specific eligibility requirements are determined at the State and local levels. Please coordinate with partnering agencies: local Metropolitan Planning Organization; State Department of Transportation (DOTs), and the State FHWA Division Office.

Sign Management Programs: Federal programs that are possible sources of funding for setting up sign management programs include:

- State Planning and Research Program (SPR);
- Community Safety Grants; and
- Highway Safety Improvement Program (HSIP), if data-supported, with link to State's Strategic Highway Safety Plan

Sign Replacement Programs: Federal programs that are possible sources of funding for sign replacement programs include:

- National Highway System, which provides funds for improvement to rural and urban roads in the National Highway System, including Interstate and inter-modal terminals;
- Surface Transportation Program, which provides flexible funding that may be used by States and localities for projects on any Federal highway, bridge projects on any public road, transit capital projects, and intercity bus terminals and facilities. A portion of funds reserved for rural areas may be spent on rural minor collectors;
- Interstate Maintenance Program (IMP), which provides funding for maintenance of the Interstate System;
- HSIP, if data-supported, with link to State's Strategic Highway Safety Plan; and
- HRRR – a set-aside of HSIP funds to reduce traffic fatalities and injuries on rural roadways.

For More Information

FHWA Nighttime Visibility Web Site http://safety.fhwa.dot.gov/roadway_dept/night_visib/
Manual on Uniform Traffic Control Devices <http://mutcd.fhwa.dot.gov/>
Sign Retroreflectivity Toolkit http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/
American Traffic Safety Services Association (ATSSA) Retroreflectivity Clearinghouse
<http://www.atssa.com/page.wv?name=Home§ion=Retroreflectivity>

Local Technical Assistance Program
<http://www.ltap.org/>

Local FHWA Division Office
<http://www.fhwa.dot.gov/about/field.cfm>



U.S. Department of Transportation
Federal Highway Administration